

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously presented): A method for manufacturing a semiconductor device having at least one thin film transistors, said method comprising the steps of:

forming a semiconductor layer over a substrate;

irradiating said semiconductor layer with a laser beam to crystallize said semiconductor layer; and

forming source, drain and channel region of said thin film transistor within said semiconductor layer,

wherein said laser beam is a second harmonic component having a wavelength of 532 nm generated from a continuous-oscillate light source,

wherein the irradiation of said semiconductor layer is conducted in such a manner that said semiconductor layer is scanned with said laser beam in parallel with a carrier flow direction in said channel region.

2. (Previously presented): A method for manufacturing a semiconductor device having at least one thin film transistors, said method comprising the steps of:

forming a semiconductor layer over a substrate;

irradiating said semiconductor layer with a linear laser beam to crystallize said semiconductor layer; and

forming source, drain and channel region of said thin film transistor within said semiconductor layer,

wherein said linear laser beam is a second harmonic component having a wavelength of 532 nm generated from a continuous-oscillate light source,

wherein the irradiation of said semiconductor layer is conducted in such a manner that said semiconductor layer is scanned with said linear laser beam in parallel with a carrier flow direction in said channel region.

3. (Withdrawn): A method for manufacturing a semiconductor device having at least one thin film transistors, said method comprising the steps of:

forming a semiconductor layer over a substrate;

irradiating said semiconductor layer with a laser beam to crystallize said semiconductor layer; and

forming source, drain and channel region of said thin film transistor within said semiconductor layer,

wherein said laser beam is a third harmonic component generated from a continuous-oscillate light source,

wherein the irradiation of said semiconductor layer is conducted in such a manner that said semiconductor layer is scanned with said laser beam in parallel with a carrier flow direction in said channel region.

4. (Withdrawn): A method for manufacturing a semiconductor device having at least one thin film transistors, said method comprising the steps of:

forming a semiconductor layer over a substrate;

irradiating said semiconductor layer with a linear laser beam to crystallize said semiconductor layer; and

forming source, drain and channel region of said thin film transistor within said semiconductor layer,

wherein said linear laser beam is a third harmonic component generated from a continuous-oscillate light source,

wherein the irradiation of said semiconductor layer is conducted in such a manner that said semiconductor layer is scanned with said linear laser beam in parallel with a carrier flow direction in said channel region.

5. (Withdrawn): A method for manufacturing a semiconductor device having at least one thin film transistors, said method comprising the steps of:

- forming a semiconductor layer over a substrate;
- irradiating said semiconductor layer with a laser beam to crystallize said semiconductor layer; and

- forming source, drain and channel region of said thin film transistor within said semiconductor layer,

- wherein said laser beam is a second harmonic component of a Nd:YAG laser,
- wherein the irradiation of said semiconductor layer is conducted in such a manner that said semiconductor layer is scanned with said laser beam in parallel with a carrier flow direction in said channel region.

6. (Withdrawn): A method for manufacturing a semiconductor device having at least one thin film transistors, said method comprising the steps of:

- forming a semiconductor layer over a substrate;
- irradiating said semiconductor layer with a linear laser beam to crystallize said semiconductor layer; and

- forming source, drain and channel region of said thin film transistor within said semiconductor layer,

- wherein said linear laser beam is a second harmonic component of a Nd:YAG laser,
- wherein the irradiation of said semiconductor layer is conducted in such a manner that said semiconductor layer is scanned with said linear laser beam in parallel with a carrier flow direction in said channel region.

7. (Withdrawn): A method for manufacturing a semiconductor device having at least one thin film transistors, said method comprising the steps of:

- forming a semiconductor layer over a substrate;
- irradiating said semiconductor layer with a laser beam to crystallize said semiconductor layer; and

- forming source, drain and channel region of said thin film transistor within said semiconductor layer,

- wherein said laser beam is a third harmonic component of a Nd:YAG laser,

- wherein the irradiation of said semiconductor layer is conducted in such a manner that said semiconductor layer is scanned with said laser beam in parallel with a carrier flow direction in said channel region.

8. (Withdrawn): A method for manufacturing a semiconductor device having at least one thin film transistors, said method comprising the steps of:

- forming a semiconductor layer over a substrate;
- irradiating said semiconductor layer with a linear laser beam to crystallize said semiconductor layer; and

- forming source, drain and channel region of said thin film transistor within said semiconductor layer,

- wherein said linear laser beam is a third harmonic component of a Nd:YAG laser,
- wherein the irradiation of said semiconductor layer is conducted in such a manner that said semiconductor layer is scanned with said linear laser beam in parallel with a carrier flow direction in said channel region.

9. (Previously presented): A method of manufacturing a semiconductor device having at least one thin film transistor, said method comprising the steps of:

- forming a semiconductor layer over a substrate; and

irradiating said semiconductor layer with a linear laser beam to crystallize said semiconductor layer, while moving said substrate in a direction approximately perpendicular to a lengthy direction of said linear laser beam,

wherein said linear laser beam is a second harmonic component having a wavelength of 532 nm generated from a continuous-oscillate light source.

10. (Currently amended): A method of manufacturing a semiconductor device having at least one thin film transistor, said method comprising the steps of:

forming a semiconductor layer over a substrate;

irradiating said semiconductor layer with a laser beam to crystallize said semiconductor layer; ~~and~~

patterning the crystallized semiconductor layer to form an active layer of said thin film transistor[[],]; and

forming source, drain and channel regions of said thin film transistor in said active layer,

wherein said laser beam is a second harmonic component having a wavelength of 532 nm generated from a continuous-oscillate light source[[]], and

wherein the irradiation of said semiconductor layer is conducted in such a manner that said semiconductor layer is scanned with said laser beam in parallel with a direction in which a carrier flows from said source region to said drain region.

11. (Withdrawn): A method of manufacturing a semiconductor device having at least one thin film transistor, said method comprising the steps of:

forming a semiconductor layer over a substrate; and

irradiating said semiconductor layer with a linear laser beam to crystallize said semiconductor layer, while moving said substrate in a direction approximately perpendicular to a lengthy direction of said linear laser beam,

wherein said linear laser beam is a third harmonic component generated from a continuous-oscillate light source.

12. (Withdrawn): A method of manufacturing a semiconductor device having at least one thin film transistor, said method comprising the steps of:

forming a semiconductor layer over a substrate;

irradiating said semiconductor layer with a laser beam to crystallize said semiconductor layer; and

patterning the crystallized semiconductor layer to form an active layer of said thin film transistor,

wherein said laser beam is a third harmonic component generated from a continuous-oscillate light source.

13. (Withdrawn): A method of manufacturing a semiconductor device having at least one thin film transistor, said method comprising the steps of:

forming a semiconductor layer over a substrate; and

irradiating said semiconductor layer with a linear laser beam to crystallize said semiconductor layer, while moving said substrate in a direction approximately perpendicular to a lengthy direction of said linear laser beam,

wherein said linear laser beam is a second harmonic component of a Nd:YAG laser.

14. (Withdrawn): A method of manufacturing a semiconductor device having at least one thin film transistor, said method comprising the steps of:

forming a semiconductor layer over a substrate;

irradiating said semiconductor layer with a laser beam to crystallize said semiconductor layer; and

patterning the crystallized semiconductor layer to form an active layer of said thin film transistor,

wherein said laser beam is a second harmonic component of a Nd:YAG laser.

15. (Withdrawn): A method of manufacturing a semiconductor device having at least one thin film transistor, said method comprising the steps of:

forming a semiconductor layer over a substrate; and

irradiating said semiconductor layer with a linear laser beam to crystallize said semiconductor layer, while moving said substrate in a direction approximately perpendicular to a lengthy direction of said linear laser beam,

wherein said linear laser beam is a third harmonic component of a Nd:YAG laser.

16. (Withdrawn): A method of manufacturing a semiconductor device having at least one thin film transistor, said method comprising the steps of:

forming a semiconductor layer over a substrate;

irradiating said semiconductor layer with a laser beam to crystallize said semiconductor layer; and

patterning the crystallized semiconductor layer to form an active layer of said thin film transistor,

wherein said laser beam is a third harmonic component of a Nd:YAG laser.

17. (Previously presented): A method according to any one of claims 1, 2, 9 and 10, wherein said semiconductor layer comprises amorphous silicon.

18. (Previously presented): A method according to any one of claims 1, 2, 9 and 10, wherein said semiconductor layer comprises silicon and germanium.

19. (Previously presented): A method according to any one of claims 1, 2, 9 and 10, wherein the crystallized semiconductor layer contains carbon at a concentration not higher than 5×10^{18} atoms/cm³.

20. (Previously presented): A method according to any one of claims 1, 2, 9 and 10, wherein the crystallized semiconductor layer contains oxygen at a concentration not higher than 5×10^{19} atoms/cm³.

21. (Withdrawn): A method for manufacturing a semiconductor device, said method comprising the steps of:

- forming a semiconductor layer over a substrate;
- irradiating said semiconductor layer with a CW laser beam to crystallize said semiconductor layer; and
- patterning the crystallized semiconductor layer to form an active layer including a channel region,

wherein the irradiation of said semiconductor layer is conducted in such a manner that said semiconductor layer is scanned with said laser beam in parallel with a carrier flow direction in said channel region.

22. (Withdrawn): A method for manufacturing a semiconductor device having at least one thin film transistors, said method comprising the steps of:

- forming a semiconductor layer over a substrate;
- irradiating said semiconductor layer with a CW laser beam having a wavelength of 1064 nm to crystallize said semiconductor layer; and
- patterning the crystallized semiconductor layer to form an active layer including a channel region,

wherein the irradiation of said semiconductor layer is conducted in such a manner that said semiconductor layer is scanned with said laser beam in parallel with a carrier flow direction in said channel region.

23. (Withdrawn): A method for manufacturing a semiconductor comprising the steps of:

forming a semiconductor layer over a substrate;
irradiating said semiconductor layer with a CW laser beam having a wavelength of 532 nm to crystallize said semiconductor layer; and
patterning the crystallized semiconductor layer to form an active layer including a channel region,
wherein the irradiation of said semiconductor layer is conducted in such a manner that said semiconductor layer is scanned with said laser beam in parallel with a carrier flow direction in said channel region.

24. (Withdrawn): A method for manufacturing a semiconductor device comprising the steps of:
forming a semiconductor layer over a substrate;
irradiating said semiconductor layer with a CW laser beam having a wavelength of 355 nm to crystallize said semiconductor layer; and
patterning the crystallized semiconductor layer to form an active layer including a channel region,
wherein the irradiation of said semiconductor layer is conducted in such a manner that said semiconductor layer is scanned with said laser beam in parallel with a carrier flow direction in said channel region.

25. (Withdrawn): A method for manufacturing a semiconductor device comprising the steps of:
forming a semiconductor layer over a substrate;
irradiating said semiconductor layer with a CW laser beam comprising Nd to crystallize said semiconductor layer; and
patterning the crystallized semiconductor layer to form an active layer including a channel region,
wherein the irradiation of said semiconductor layer is conducted in such a manner that said semiconductor layer is scanned with said laser beam in parallel with a carrier flow direction in said channel region.

26. (Withdrawn): A method for manufacturing a semiconductor device comprising the steps of:

forming a semiconductor layer over a substrate;
irradiating said semiconductor layer with a second harmonic of a CW laser beam
comprising Nd to crystallize said semiconductor layer; and
patterning the crystallized semiconductor layer to form an active layer including a
channel region,

wherein the irradiation of said semiconductor layer is conducted in such a manner that
said semiconductor layer is scanned with said laser beam in parallel with a carrier flow direction
in said channel region.

27. (Withdrawn): A method for manufacturing a semiconductor device comprising the steps of:

forming a semiconductor layer over a substrate;
irradiating said semiconductor layer with a third harmonic of a CW laser beam
comprising Nd to crystallize said semiconductor layer; and
patterning the crystallized semiconductor layer to form an active layer including a
channel region,

wherein the irradiation of said semiconductor layer is conducted in such a manner that
said semiconductor layer is scanned with said laser beam in parallel with a carrier flow direction
in said channel region.

28. (Withdrawn): The method according to any one of claims 21, 22, 23, 24, 25, 26 or 27
wherein said semiconductor layer comprises amorphous silicon.

29. (Withdrawn): The method according to any one of claims 21, 22, 23, 24, 25, 26 or 27
wherein the CW laser beam is a YAG laser beam.

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30. (Withdrawn): The method according to any one of claims 21, 22, 23, 24, 25, 26 or 27 wherein said semiconductor layer is melted by the irradiation of the laser beam.